DOCUMENT RESUME

ED 279 881 CE 046 614

TITLE Integrated Computing. Vocational Education Curriculum Guide. Business Education.
INSTITUTION West Virginia State Vocational Curriculum Lab., Cedar Lakes.
PUB DATE Jan 87
NOTE 31p.
PUB TYPE Guides - Classroom Use - Guides (For Teachers) (052)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Behavioral Objectives; Business Education; Competency Based Education; *Computer Literacy; *Computers; Computer Software; Curriculum Guides; Database Management Systems; Databases; *Data Processing Occupations; Job Skills; *Keyboarding (Data Entry); *Office Occupations Education; Standards; *Word Processing

ABSTRACT

This curriculum guide provides the basic curriculum components required to develop lesson plans that address the learning outcomes for the area of integrated computing. It is not a complete, self-contained curriculum. Instead, the guide provides the teacher with a number of informational items related to the learning outcomes and allows him/her the flexibility to design instructional activities, select resources, and deliver instruction most appropriate for the learner and learning environment. Information for the teacher includes suggestions for development of instructional activities, instruction, and evaluation of learner performance. This area of study is divided into 15 learning outcomes. Each learning outcome is divided into one to three associated tasks. For each task these types of information are provided: performance standard; required tools, resources, equipment, and situations; performance steps (where applicable); and enabling objectives. Representative topics upon which learning outcomes focus include keyboarding techniques on the computer keyboard, computer literacy, the concept of integrated software, use of specialized and integrated software, word processing, proofreading, spreadsheets, file and database management, telecommunications and electronic mail, accounting applications, and database creation. (YLB)

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VOCATIONAL EDUCATION CURRICULUM GUIDE

BUSINESS EDUCATION

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INTEGRATED COMPUTING

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INTEGRATED COMPUTING

CURRICULUM GUIDE

Published by:

West Virginia Department of Education
The Bureau of Vocational, Technical and Adult Education
Vocational Curriculum Laboratory
Cedar Lakes Conference Center
Ripley, West Virginia 25271

Printed January 1987

Preface

The concept of competency based vocational-technical education has been supported by the Bureau of Vocational, Technical and Adult Education for a number of years. Since the early 1970's, the State has sponored the development and dissemination of numerous competency based curricula through the State Vocational Curriculum Laboratory. With the recent development of the State Master Plan for Public Education, however, the need to move rapidly toward systemwide adoption of this instructional concept in all schools is mandated by State Board of Education Policy.

According to the State Master Plan for Public Education, all instructional programs are to be learner oriented and described in terms of high quality, measurable, student centered outcomes (learning outcomes). In essence, this policy reinforces the competency-based vocational education philosophy.

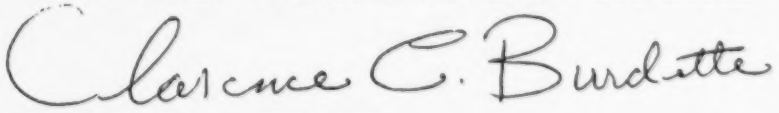
Consistent with our current efforts in encouraging the implementation of vocational education learning outcomes, we have prepared this curriculum guide to assist vocational teachers as they prepare lesson plans that are reflective of the mandated core curriculum and defensible in terms of an equitable, quality vocational program.

Additional copies of this curriculum guide may be obtained from the:

West Virginia Vocational Curriculum Laboratory
Cedar Lakes Conference Center
Ripley, West Virginia 25271
Telephone: (304) 372-7021
Toll Free: 1-800-WVA-JOBS (in state)

Any suggestions you have for improving this material may be sent to your Vocational Curriculum Laboratory. Through this feedback, we plan to continually update and revise our materials.

VOCATIONAL, TECHNICAL AND ADULT EDUCATION



Clarence E. Burdette
Assistant State Superintendent of Schools

Overview

The contents of this guide provide the basic curriculum components required to develop lesson plans that address the learning outcomes for this particular area of study. As such, this guide is not intended to be a complete, self-contained curriculum. Instead, the teacher is provided a number of informational items related to the learning outcomes and allowed the flexibility to design instructional activities, select resources and deliver instruction most appropriate for the learner and learning environment.

Specifically, this curriculum guide is organized in the following manner:

Units of Instruction (Where applicable)

A unit of instruction is a group or cluster of related learning outcomes that have been placed together for their similarity or main idea of task accomplishment. An example of a Unit would be Shielded Metal Arc Welding within the welding and cutting area of study.

Learning Outcomes

A learning outcome, oftentimes synomous with a competency statement, is a concise description of the curriculum in terms of desired learner behavior. Such statements are measurable, may contain one or more tasks and be action oriented. All approved learning outcomes for vocational education have undergone a strigent verification process with input from teachers and representatives of the business and/or industrial sector.

The approved learning outcomes for a specific vocational education area of study represent the core competencies of what has been identified as a quality vocational education experience. They do not, however, represent the entire instructional program for any area of study. It is hoped that all vocational instructors and local educational agencies will provide learners with educational experiences that exceed the "core competencies" identified through the learning outcomes.

Associated Tasks

A task represents an identifiable behavior that (1) has a purpose; (2) has a definite beginning and ending; (3) contains two or more steps none of which is a restatement of the original task statement if in the psychomotor domain; and (4) has a standard of performance which can be defined, described and verified. Learning outcome statements may be on the task level or may contain two or more independent tasks.

Examples of task/behavior statements are:

1. Chase external pipe threads.
2. Bleed diesel fuel system.
3. Use common standard medical abbreviations.
4. Prepare a resume.
5. Plan food experiences suitable for young children.

Performance Standards

The Standard is defined as criteria for assessing if tasks are performed or demonstrated as either acceptable or unacceptable. The performance standard communicates to the learner the quantity and quality of how well he or she is expected to complete the task. The standard can be stated in terms such as actual percentage of achievement, the accuracy expected, the number of errors permitted, the time allowed to complete the task, the degree, or any other appropriate level at which achievement is anticipated. The standard should be based on the performance level needed on the job.

Examples of standards are:

1. The circuit board must operate within the tolerances of the circuit design.
2. The estimate must be within + or -5% of that figured by the instructor.
3. Contacts must open when more than 125% of rated current value is made to pass through the overload relay heating element or coil.
4. The installation must be complete and each conductor must be terminated according to the schematic drawing of the design.
5. The motor must carry the load without being overloaded; the directions of rotation must be correct; belt must have a deflection of between 3/8" or 1/2".

Tools, Equipment, Resources and Situation(s)

Situation(s) is defined as the limiting constraints under which actions are to occur. The circumstances or restrictions imposed on the learner when he or she is demonstrating the behavior must be defined. Frequently, the conditions identify the testing situation used to determine learner achievement of the standard. Tools and equipment are the materials needed to perform the task being addressed in each performance standard.

Performance Steps

Performance steps are a series of steps required to perform a psychomotor task. The steps (1) are arranged in the sequence ordinarily followed on the job, (2) have a concise start and close, (3) are limited to the accompanying task statement, and

(4) are self-supporting and do not refer to actions beyond the task performance. Performance steps developed for each task are used to determine the enabling objectives and steps and procedures for performance checklist(s) to be utilized in assessing learner mastery of the task.

Enabling Objectives

Enabling objectives reflect the knowledges, attitudes and related skills the learner must possess in order to complete the task to the specified standard(s). As such, enabling objectives are derived from an instructional analysis of the task and/or performance steps and are stated in measurable terms of student performance.

Terms such as "define verbally," "construct," "diagram" and "list" are used to express enabling objectives, rather than obscure verbs like "know," "learn" and "understand". Examples of acceptable enabling objectives are:

1. List verbally the parts of a voltmeter.
2. Define Ohm's Law.
3. Explain relevant safety precautions and procedures.
4. Discriminate between types of life insurance policies.

Given this information for each outcome statement, the instructor is encouraged to develop the following components for lesson planning, delivery and evaluation.

Develop Instructional Activities

Instructional activities should be designed to provide the learner with experiences related to the enabling objectives, cumulating in successful task performance. The instructional activity section of a curriculum should contain a variety of strategies designed for the learners' varying learning styles and rates.

Consideration should be given to age, ability levels, educational levels, varied learning styles, individual interests, career goals, and emotional needs when developing the instructional activities. Activities should include suggestions for large groups, small groups and individual methods. The use of small groups may help students attain the skills, knowledge and attitudes associated with each task by making them (1) feel adequate and physically competent when they lack the necessary background information and experience; (2) feel a sense of security through the reenforcement of positive group attitudes; (3) gain confidence and discover that they are an essential part

of a team engaged in the learning-teaching process; (4) learn to work without direct supervision, and (5) vary instructional routines away from lecture or other full-class methods.

Identify Appropriate Instructional Resources

Instructional resources should be identified for each instructional activity and should be designed to help convey the message of the task and enabling objective(s). Attempts should be made to utilize modern instructional technology (i.e. television, computers, video-tapes, etc.) as much as possible in delivering the message desired. However, caution is advised in limiting the suggested resource section to only one alternative; due to the differing availability of resources between like programs across the state.

Provide Instruction

Many misconceptions exist about how an individual teacher must manage the instructional process when utilizing the competency based approach. Oftentimes CBE is considered synonmous with individualized instruction, wherein the instructor becomes the instructional manager of the educational process instead of the more traditional view of the teacher. Such misconceptions have led many educators to renounce competency based education as a means by which the teacher loses control and direction over the instructional process and is relegated to merely a role of record keeper.

The underlying concept of competency based instruction, however, does not dictate specific instructional procedures and methodologies, but rather assures that those skills, knowledges and attitudes deemed essential for job success are taught, mastered to acceptable standards and documented. How this instruction is managed within the classroom, be it on a large group, small group or individualized basis should be left up to the instructor.

The content of the task itself and the enabling objectives dictate what should be taught. Thus, the instructional activities and supporting resources identified in the instructional plan must be designed to accommodate learner mastery of the subject matter. Where appropriate, this instruction may involve large group activities, smaller group participation and/or solely individualized study.

Where substantial diversity exists between ability and skill levels of the learners within a class, arrangements should be made to structure learning activities that accommodate this difference. This type of instructional arrangement is particularly crucial, given that one of the major premises of competency based instruction is that the learner be allowed to progress at his/her own pace and that this progression be based upon successful mastery of sequential competencies.

Also, another major consideration that must be given to providing competency-based instruction is the development of a mechanism whereby learners, due to prior experience or instruction, be allowed to "test out" on skills already attained without undue duplication of effort. This situation is most often addressed through the use of pretests prior to formal instruction.

*Evaluate Learner Performance

Evaluation of learner performance is one of the most critical steps in the instructional process. Criterion-referenced evaluative measures are advocated over the traditional norm-referenced approach due to the importance of all learners being able to perform to specialized standards. As such, the evaluation of learning outcomes and their related tasks should include means of assessing learner mastery of the knowledges, attitudes, and skills outlined in the enabling objectives and regarded as essential for completion of the learning outcomes/tasks, and also, learner performance of the learning outcomes/tasks to the performance standard.

In order to adequately evaluate learners, consideration must be given to constructing testing situations that address any or all of the three domains of learning encompassed within the learning outcome or task (i.e., psychomotor, cognitive, and affective).

*Note: The Bureau of Vocational, Technical and Adult Education is currently in the process or has developed comprehensive test item banks (written and performance) for a number of vocational education areas of study. For information relative to the availability of these item banks, contact the Assistant Director, Curriculum and Personnel Development.

Guide Coding System

Example: 4.2.3

4. - unit designation
2. - learning outcome under unit
3 - task under learning outcome

VOCATIONAL EDUCATION CURRICULUM GUIDE

INTEGRATED COMPUTING

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PROGRAM OF STUDY: BUSINESS EDUCATION

AREA OF STUDY: INTEGRATED COMPUTING

UNIT #1

LEARNING OUTCOME:

1.1 Demonstrate proper keyboarding techniques on the computer keyboard.

TASK(S):

1.1.1 Identify correct posture, stroking techniques, and special keys on computer keyboard.
1.1.2 Use touch control when keyboarding alphabetic characters on the computer.
1.1.3 Use touch control when keyboarding numbers and symbols on the computer.

TASK:

1.1.1 Identify correct posture, stroking techniques, and special keys on computer keyboard.

PERFORMANCE STANDARD:

Student must describe correct posture and stroking techniques when using computer keyboard. Student must also identify function keys and other special keys on keyboard.

TOOLS, RESOURCES, EQUIPMENT AND SITUATIONS:

Microcomputer keyboard

PERFORMANCE STEPS:

Not Applicable

ENABLING OBJECTIVES:

1. Describe correct posture and position of operator at the keyboard.
2. Identify alphabetic, number, and symbol characters on keyboard.
3. Describe purpose of function keys on computer.
4. Identify function keys on computer keyboard.
5. Identify other special keys on computer keyboard.
6. Describe correct stroking movement for fast keyboarding.

UNIT #1

LEARNING OUTCOME:

1.1 Demonstrate proper keyboarding techniques on the computer keyboard.

TASK:

1.1.2 Use touch control when keyboarding alphabetic characters.

PERFORMANCE STANDARD:

Student must demonstrate touch control of keyboard when inputting alphabetic text at the rate of 25 gross words a minute.

TOOLS, RESOURCES, EQUIPMENT AND SITUATIONS:

Computer, software disk with BASIC, text material with word or stroke count, timer

PERFORMANCE STEPS:

1. Place software disk in Drive A of computer.
2. Turn computer on to boot operating system.
3. Load BASIC.
4. Keyboard (with touch control) for one minute from text paragraph with word count.
5. Determine number of words keyboarded by comparing words on screen with word count in copy.
6. Repeat Steps 4 and 5 until total words keyboarded in one minute equals at least 25 words a minute.

ENABLING OBJECTIVES:

1. Describe procedure for booting operating system.
2. Describe procedure for loading BASIC.
3. Define term touch control.
4. Point out home row keys and correct finger placement.
5. Identify fingering for each reach to alphabetic keys.
6. Identify fingering for reaches to space bar, return key, and shift key.
7. Demonstrate ability to make reaches without looking at keyboard.
8. Explain importance of stroking keys smoothly and with snappy movements.
9. Demonstrate ability to keep hand motion at a minimum.

UNIT #1

LEARNING OUTCOME:

1.1 Demonstrate proper keyboarding techniques on the computer keyboard.

TASK:

1.1.3 Use touch control when keyboarding numbers and symbols on the computer.

PERFORMANCE STANDARD:

Student must demonstrate touch control of keyboard when inputting text containing numbers and symbols at rate of 20 words a minute.

TOOLS, RESOURCES, EQUIPMENT AND SITUATIONS:

Computer, software with BASIC, text material containing numbers and symbols with word count, timer

PERFORMANCE STEPS:

1. Place software disk in Drive A of computer.
2. Turn computer on to boot operating system.
3. Load BASIC.
4. Keyboard (with touch control) for one minute from text paragraph containing several numbers and symbols.
5. Determine number of words keyboarded by comparing words on screen with word count in copy.
6. Repeat Steps 4 and 5 until total words keyboarded in one minute equals at least 20 words a minute.

ENABLING OBJECTIVES:

1. Describe procedure for booting operating system.
2. Describe procedure for loading BASIC software.
3. Demonstrate ability to use correct fingering for reaches to number and symbol keys.
4. Demonstrate ability to make reaches to number and symbol keys without looking at keyboard.
5. Keyboard at rate of 20 or more words a minute using text material containing numbers and symbols.
6. Demonstrate touch control of 10-key number pad (optional) on computer keyboard.

UNIT #1

LEARNING OUTCOME:

1.2 Continually advance to a higher level of computer literacy.

TASK(S):

1.2.1 Increase knowledge of computer hardware.
1.2.2 Increase knowledge of computer software.

TASK:

1.2.1 Increase knowledge of computer hardware.

PERFORMANCE STANDARD:

Student must answer correctly a series of questions on computer hardware.

TOOLS, RESOURCES, EQUIPMENT AND SITUATIONS:

Not Applicable

PERFORMANCE STEPS:

Not Applicable

ENABLING OBJECTIVES:

1. Define term computer.
2. Summarize history of computers.
3. Define term computer hardware.
4. Name three types of computers.
5. Discuss similarities and differences in mainframe computers, minicomputers, and microcomputers.
6. Describe input, output, storage, and CPU elements of a computer system.
7. Explain meaning of term peripherals.
8. Describe peripherals used as input devices in computer systems.
9. Describe peripherals used for computer output.
10. Describe common mass storage devices used in computer systems.
11. Define terms: bit, byte, memory, logic, ROM, RAM, on line, magnetic tape, hard disk, floppy disk, stape drive, sequential access, random access.
12. Demonstrate knowledge of developing technology and trends in computer hardware.

UNIT #1

LEARNING OUTCOME:

1.2 Continually advance to a higher level of computer literacy.

TASK:

1.2.2 Increase knowledge of computer software.

PERFORMANCE STANDARD:

Student must answer correctly a series of questions on computer software.

TOOLS, RESOURCES, EQUIPMENT AND SITUATIONS:

Not Applicable

PERFORMANCE STEPS:

Not Applicable

ENABLING OBJECTIVES:

1. Define term computer software.
2. Distinguish between systems software and applications software.
3. Define terms: operating system, program, programming language, interactive software, CAD/CAM.
4. Describe three kinds of systems software: operating systems, utility programs, programming languages.
5. Name several common programming languages.
6. Explain why BASIC is commonly used in microcomputer programming.
7. Discuss software applications in fields of medicine, science, engineering, and education.
8. Demonstrate knowledge of developments and trends in field of computer software.

UNIT #1

LEARNING OUTCOME:

1.3 Use microcomputer equipment to demonstrate an understanding of the concept of integrated software.

TASK(S):

1.3.1 Describe major applications programs used with microcomputers.

1.3.2 Explain concept of integrated software.

TASK:

1.3.1 Describe major applications programs used with microcomputers.

PERFORMANCE STANDARD:

Student must accurately describe the use of word processing, electronic spreadsheets, and database management software for microcomputers.

TOOLS, RESOURCES, EQUIPMENT AND SITUATIONS:

Not Applicable

PERFORMANCE STEPS:

Not Applicable

ENABLING OBJECTIVES:

1. Define word processing.
2. List advantages of microcomputer word processing software in business.
3. Differentiate between dedicated word processing and microcomputer word processing.
4. Explain what is meant by an electronic spreadsheet.
5. Describe several uses for spreadsheet software in business.
6. Define terms: database, database management.
7. List uses for database management systems in business.

UNIT #1

LEARNING OUTCOME:

1.3 Use microcomputer equipment to demonstrate an understanding of the concept of integrated software.

TASK:

1.3.2 Explain the concept of integrated software.

PERFORMANCE STANDARD:

Student must describe accurately: integrated software systems (families), integrated (multifunction) software packages, systems intetgrator software (operating environments).

TOOLS, RESOURCES, EQUIPMENT AND SITUATION(S):

Not Applicable

PERFORMANCE STEPS:

Not Applicable

ENABLING OBJECTIVES:

1. Explain need in business for integrating software.
2. Explain what is meant by integrated software systems (software families).
3. List advantages and disadvantages of an integrated software system.
4. Name examples of integrated software families.
5. Explain what is meant by an integrated software package (multifunction).
6. Name functions commonly integrated in one package.
7. List advantages and disadvantages of multifunction packages over separate application packages.
8. Names examples of integrated software packages.
9. Define terms: window, mouse, macro language.
10. Explain what is meant by a systems integrator (operating environment) program.
11. List advantages and disadvantages of using an operating environment to integrate software.
12. Name examples of systems integrator programs.
13. Explain trend toward governing integration with the operating system.

UNIT #1

LEARNING OUTCOME:

1.4 Utilize specialized software (payroll, accounts receivable, accounts payable, general ledger, inventory control, filing).

1.4.1 Explain use of accounting, graphics, and communications software with microcomputers.

PERFORMANCE STANDARD:

Student must accurately describe the use of accounting, graphics, and communications software in business.

TOOLS, RESOURCES, EQUIPMENT AND SITUATIONS:

Not Applicable

PERFORMANCE STEPS:

Not Applicable

ENABLING OBJECTIVES:

1. List accounting functions which can be performed by microcomputers.
2. List advantages and disadvantages of using microcomputers for accounting.
3. Name commonly used business graphics which can be produced on microcomputer.
4. List advantages and disadvantages of business graphics software.
5. List special hardware requirements for using graphics software.
6. Explain use of microcomputers in telecommunications.
7. Define term electronic mail.

UNIT #1

LEARNING OUTCOME:

1.5 Utilize integrated software to perform input, processing, revision, and output of various business applications.

TASK:

1.5.1 Describe how each function of integrated software can be used for input, processing, revision, and output.

PERFORMANCE STANDARD:

Student must describe use of integrated software for input, processing, revision, and output in word processing, budgeting, and inventory control.

TOOLS, RESOURCES, EQUIPMENT AND SITUATIONS:

Not Applicable

PERFORMANCE STEPS:

Not Applicable

ENABLING OBJECTIVES:

1. List microcomputer applications frequently integrated.
2. Explain how word processing application is used for input, processing, revising, and output of text.

3. Explain how spreadsheet application is used for input, processing, revising, and output in business forecasting.
4. Discuss use of database management software for input, processing, revising, and output of large amounts of data.

UNIT #1

LEARNING OUTCOME:

1.6 Explore different functions of integrated software to understand the business application of each (i.e., word processing, accounting, spreadsheet, file and database management, data entry, and communications).

TASK:

1.6.1 Explore different functions of integrated software.

PERFORMANCE STANDARD:

Student must give examples of the application of word processing, accounting, spreadsheet, file and database management, data entry, and communications software in business.

TOOLS, RESOURCES, EQUIPMENT AND SITUATIONS:

Not Applicable

PERFORMANCE STEPS:

Not Applicable

ENABLING OBJECTIVES:

1. Define term integrated software.
2. List applications frequently integrated in a multifunction package such as Lotus 1-2-3.
3. Explain how spreadsheet, database management system, and graphics can be used in a single application.
4. Identify additional functions performed by fully integrated software packages.
5. Describe use of electronic spreadsheet in budgeting, planning, forecasting, and number crunching.
6. Explain difference between electronic filing system or file management and database management systems.
7. List uses for database management systems in business.
8. List uses for electronic spreadsheets in business.
9. Explain use of integrated software for data entry from several locations.
10. Describe application of telecommunications in integrated software.

UNIT #1

LEARNING OUTCOME:

1.7 Decide how to complete assigned tasks using integrated software.

TASK:

1.7.1 Plan steps in completing assigned tasks using integrated software.

PERFORMANCE STANDARD:

Student must list steps involved in completing assigned tasks with integrated software.

TOOLS, RESOURCES, EQUIPMENT AND SITUATIONS:

Not Applicable

PERFORMANCE STEPS:

Not Applicable

ENABLING OBJECTIVES:

1. Describe input/process/output cycle of the computer.
2. Demonstrate understanding of purpose of assigned task.
3. Describe importance of defining output desired and in what form it will be produced.
4. Demonstrate ability to define input needed.
5. Demonstrate ability to outline in proper sequence the processing steps needed to convert input to desired output.
6. Demonstrate understanding of which functions of integrated software packages may be used for the input, processing, and output steps in assigned task.

UNIT #1

LEARNING OUTCOME:

1.8 Utilize the word processing function of an integrated package to complete a document requiring the use of commands to create, format, edit, store, and print.

TASK:

1.8.1 Use word processing function of an integrated package to complete a document.

PERFORMANCE STANDARD:

Student must use word processing function of an integrated package to keyboard, edit, store, and print a business letter.

TOOLS, RESOURCES, EQUIPMENT AND SITUATIONS:

Integrated software package including word processing, printer, printer paper, microcomputer

PERFORMANCE STEPS:

1. Place disk containing software in Drive A.
2. Place data disk in Drive B.
3. Format disk if it is new.
4. Turn on computer to boot operating system.
5. Answer date and time questions as they appear on screen.
6. Load integrated software program.
7. Choose word processing option in software program (document mode).
8. Enter text in document mode.
9. Insert formatting commands.
10. Save letter on disk.
11. Print letter.
12. Exit from program.

ENABLING OBJECTIVES:

1. Describe procedure for formatting a disk.
2. Demonstrate ability to boot operating system.
3. Demonstrate ability to load applications software.
4. Describe procedure for entering document mode.
5. List commands used in formatting a document.
6. Describe procedure for saving text on disk.
7. Demonstrate ability to print text from disk.
8. Explain procedure for exiting from program.

UNIT #1

LEARNING OUTCOME:

1.9 Proofread and revise assigned projects to produce correct final output.

TASK:

1.9.1 Proofread and revise text which has been stored on disk.

PERFORMANCE STANDARD:

Student must use disk containing previously stored letter to retrieve document from disk, proofread document on screen, correct all errors, and print correct copy of letter.

TOOLS, RESOURCES, EQUIPMENT AND SITUATIONS:

Computer with word processing software, data disk containing previously stored letter, printer and printer paper

PERFORMANCE STEPS:

1. Place disk containing word processing software in Drive A.
2. Place data disk containing previously stored letter in Drive B.
3. Turn computer on to boot operating system.
4. Load applications software.
5. Call up document on screen.
6. Proofread for keyboarding, spelling, punctuation, and grammar errors.
7. Use editing function of word processing to correct all errors.
8. Save corrected letter on disk.
9. Print correct copy of letter.
10. Exit from program.

ENABLING OBJECTIVES:

1. Describe procedure for retrieving document previously stored on disk.
2. Demonstrate correct proofreading techniques.
3. Demonstrate ability to use correct spelling, punctuation, and grammar.
4. Describe use of cursor control keys.
5. Explain procedure for using editing function of word processing package.
6. Demonstrate ability to save document on disk.
7. Describe procedure for sending document to printer.

UNIT #1

LEARNING OUTCOME:

1.10 Create spreadsheet formats and perform mathematical and logical operations.

TASK(S):

1.10.1 Create a spreadsheet format.
1.10.2 Perform mathematical and logical operations.

TASK:

1.10.1 Create a spreadsheet format.

PERFORMANCE STANDARD:

Student must create simple spreadsheet format for forecasting profit from business operations.

TOOLS, RESOURCES, EQUIPMENT AND SITUATIONS:

Computer, spreadsheet software

PERFORMANCE STEPS:

1. Place disk containing spreadsheet software in Drive A.
2. Place formatted data disk in Drive B.
3. Turn computer on to boot operating system.
4. Load spreadsheet software.
5. Move cursor to Cell A3.
6. Enter label Sales in this cell.
7. Enter label Costs in Cell A4.
8. Enter label Profit in Cell A5.
9. Move cursor to Cell B3.
10. Enter value 100 in Cell B3.
11. Enter value 70 in Cell B4.
12. Enter computation computer is to perform (100-70) in Cell B5.
13. Insert ruled line between Costs and Profit lines.
14. Save spreadsheet on disk.

ENABLING OBJECTIVES:

1. Explain what an electronic spreadsheet is.
2. Define terms: cell, cell address, cursor, test or label cells, value cells, formula cells, spreadsheet commands, global commands, local commands, spreadsheet template.
3. Demonstrate ability to define what spreadsheet columns and rows represent and relationship between entries.
4. Demonstrate ability to move cursor to any cell in spreadsheet.
5. Describe procedure for entering text, value, or formula in cells.
6. Describe procedure for saving spreadsheet on disk.
7. Explain procedure for adjusting column widths.
8. Describe procedure for inserting blank rows and putting horizontal lines in spreadsheet.
9. Describe procedure for window scrolling in spreadsheet.

UNIT #1

LEARNING OUTCOME:

1.10 Create spreadsheet formats and perform mathematical and logical operations.

TASK:

1.10.2 Perform mathematical and logical operations.

PERFORMANCE STANDARD:

Student must call up previously generated spreadsheet and insert arithmetic formula in cell to perform calculation.

TOOLS, RESOURCES, EQUIPMENT AND SITUATIONS:

Computer, data disk containg previously generated spreadsheet, spreadsheet software

PERFORMANCE STEPS:

1. Place disk containing spreadsheet software in Drive A.
2. Place data disk containing previously generated spreadsheet in Drive B.
3. Turn computer on to boot operating system.
4. Load spreadsheet software.
5. Retrieve previously generated spreadsheet from disk.
6. Change value in Cell B4 to formula .7xB3
7. Change value in Cell B3 to 500.
8. Observe computer recalculate value of Cell B5.
9. Save revised spreadsheet on disk.

ENABLING OBJECTIVES:

1. Describe procedure for retrieving spreadsheet from disk.
2. Demonstrate ability to move cursor and change values in cells.
3. Define formula cell.
4. Explain advantages of using formula cells in spreadsheet calculations.

UNIT #1

LEARNING OUTCOME:

1.11 Use file and database management (sort, combine, merge, etc.) to manipulate data and files.

TASK:

1.11.1 Use file and database management to manipulate data and files.

PERFORMANCE STANDARD:

Student must use electronic filing or database management program to combine two previously stored customer lists, sort by zip code in ascending order, and list combined customer file on printer.

TOOLS, RESOURCES, EQUIPMENT AND SITUATIONS:

Computer, customer data, database management software, formatted data disk

PERFORMANCE STEPS:

1. Place disk containing electronic filing or database management programs in Drive A.
2. Place formatted data disk in Drive B.
3. Turn computer on to boot operating system.
4. Load DBMS program.
5. Follow procedures for merging database files.
6. Sort file by zip code in ascending order.
7. List all records in sorted file on printer.

ENABLING OBJECTIVES:

1. Define database, database management system, files, records, fields, key field.
2. Distinguish between menu-driven DBMS system, program-driven system, and command language driven system.
3. Explain difference between hierarchical/network system and relational database management system.
4. Describe different data types.
5. Describe procedure for merging files.
6. Explain difference between sorting database and indexing database.
7. Demonstrate ability to list sorted database on screen.
8. Describe procedure for selecting specific records of database for listing.
9. Define difference between logical order of records and physical order of records.
10. Demonstrate ability to list on printer the contents of database.

UNIT #1

LEARNING OUTCOME:

1.12 Use telecommunications and electronic mail.

TASK:

1.12.1 Describe use of telecommunications and electronic mail in business.

PERFORMANCE STANDARD:

Student must describe uses for electronic mail in business. Student must also explain uses of on-line data bases.

TOOLS, RESOURCES, EQUIPMENT AND SITUATIONS:

Not Applicable

PERFORMANCE STEPS:

Not Applicable

ENABLING OBJECTIVES:

1. Define terms telecommunications, electronic mail, modem, bps, baud, analog transmission, digital transmission, protocols, satelite transmission, concurrent communications.
2. Describe process of sending mail electronically.
3. Describe use of an electronic mailbox.
4. List advantages and disadvantages of electronic mail.
5. Define term local area network and explain its use.
6. Describe use of on-line data bases.

UNIT #1

LEARNING OUTCOME:

1.13 Utilize integrated software to complete accounting applications.

TASK:

1.13.1 Use integrated accounting software.

PERFORMANCE STANDARD:

Student must explain use of integrated software in processing checks for accounts payable.

TOOLS, RESOURCES, EQUIPMENT AND SITUATIONS:

Integrated accounting software package

PERFORMANCE STEPS:

Not Applicable

ENABLING OBJECTIVES:

1. Demonstrate understanding of basic accounting principles.
2. List functions commonly included in an integrated accounting package.
3. Describe procedure for booting operating system.
4. Describe procedure for loading software program.
5. Demonstrate ability to follow procedures in documentation accompanying software package.

UNIT #1

LEARNING OUTCOME:

1.14 Design and consistently maintain appropriate documentation (manual) for software being used.

TASK:

1.14.1 Design and maintain documentation for software being used.

PERFORMANCE STANDARD:

Student must list clearly and in correct sequence steps to be followed in completing each operation performed with software package. Student must also keep documentation up to date by adding comments, corrections, and warnings as software is used.

TOOLS, RESOURCES, EQUIPMENT AND SITUATIONS:

Microcomputer and microcomputer software

PERFORMANCE STEPS:

Not Applicable

ENABLING OBJECTIVES:

1. Show understanding of functions performed by software.
2. Demonstrate ability to use computer to boot operating system and load software.

3. Demonstrate ability to follow procedures given in training session or in documentation provided with software.
4. Demonstrate ability to outline procedures clearly in correct sequence for won use.
5. Explain importance of recording shortcuts, hints, warnings, etc., when using software.

UNIT #1

LEARNING OUTCOME:

1.15 Create a data base.

TASK:

1.15.1 Create a data base.

PERFORMANCE STANDARD:

Student must use file management or database management program to create customer database.

TOOLS, RESOURCES, EQUIPMENT AND SITUATIONS:

Computer, customer data, database management software, formatted data disk

PERFORMANCE STEPS:

1. Place disk containing file management or database management program in Drive A.
2. Place formatted data disk in Drive B.
3. Turn computer on to boot operating system.
4. Load DBMS program.
5. Define field names and field lengths for customer list.
6. Enter data for each customer in list.
7. Save database on disk.
8. List database on printer.
9. Exit from program.

ENABLING OBJECTIVES:

1. Define database, database management system, files, records, fields, key field.
2. Describe different data types.
3. Describe procedure for determining structure of database file: number of fields needed, names of fields, key fields, length of each field.
4. Demonstrate ability to determine capacity of disk to store certain number of records.

5. Demonstrate ability to create database file and define fields.
6. Demonstrate ability to enter records in database.
7. Describe procedure for changing records or deleting records in database file.
8. Describe procedure for selecting specific records of database for listing.
9. Define difference between logical order of records and physical order of records.
10. Demonstrate ability to list on printer the contents of database.